INTRODUCTION

NCI Investigational Drugs - Chemical Information is designed to provide selected relevant chemical and physical data to investigators involved in various multidisciplinary studies of drugs which were developed or are being developed by the Developmental Therapeutics Program, Division of Cancer Treatment, National Cancer Institute. Monographs are presented on most of the investigational agents currently distributed by the Division of Cancer Treatment for clinical study. Monographs are also presented for many compounds in preclinical development.

Selected chemical information is presented in a standardized format to facilitate the retrieval of specific information. The format includes the chemical name, common names, molecular formula, molecular weight and structure of each compound. Generally, approximate solubility, stability, ultraviolet absorption, and chromatographic information are provided. Occasionally other selected data are provided (e.g., optical rotation).

The approximate solubility data are generated during the early stages of drug development. These studies are not necessarily conducted under "saturation conditions" and are intended only to provide rough solubility estimates for guidance during the formulation development process. As such, they should be useful for providing leads such as the potential suitability of a particular solvent as a vehicle for animal studies or for use in extracting the drug from biological fluids.

The bulk drug stability data provided are also generated early in the development process. These studies are intended to identify potential stability problems as well as identify a possible storage condition for the bulk drug. The data are not intended to support long term stability during storage. They can, however, be used as a general guide as to the relative stability of the bulk drug. The

solution stability data may provide guidance as to the storage of solutions prepared from bulk drug (e.g., some solutions may need to be prepared immediately before use).

Data from some analytical testing are presented as a range of values. These ranges are derived from the assay of multiple bulk drug samples and are typical of the values that were generated from the better samples received for analysis. Unless otherwise indicated, samples are assayed on an "as is" basis. Corrections for water content are not generally applied.

The chromatographic procedures provided [usually high performance liquid chromatographic (HPLC) procedures] are those which were developed by the analytical contractors and have been used for the assay of multiple lots of bulk drugs and clinical drug products. As such, the methods may not be immediately useful for other applications. For example, the inclusion of an extraction/isolation step or a change in detection mode may be necessary to allow the quantitation of drug in biological fluids. However, the methods can provide a starting point for developing these more specialized procedures, thus eliminating some of the time spent on methods development. It should be noted that the HPLC columns listed in the method description are the actual columns used in our analyses of the material. This is not to imply that other similar columns will not perform as well or, perhaps, better. Also, it should be recognized that the transfer of HPLC methodology from laboratory to laboratory is likely to require some amount of "fine tuning" and that retention volumes and other chromatographic characteristics may not be identical for a given set of operating conditions.

Toxicity data were derived from the Registry of Toxic Effects of Chemical Substances compiled by the National Institute of Occupational Safety and Health, the Toxicology Branch (NCI) and *in vivo* screening data (NCI). These data are provided for general

guidance only and no warranty of accuracy is implied by their inclusion. Further information should be obtained from the primary source.

Additional analytical chemistry information is available upon request from the Pharmaceutical Resources Branch, National Cancer Institute.

For information on the pharmaceutical dosage forms refer to the companion publication **NCI Investigational Drugs: Pharmaceutical Data.**

Copies of these publications or questions pertaining to the drugs contained therein may be addressed to:

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